

CLAIMS

What is claimed is:

1. A method for coating on a laser-diode facet, comprising:

5 inserting a space bar between adjacent laser-diode chips, wherein each laser-diode chip has a first electrode surface covering on a waveguide of said laser-diode chip, a second electrode surface, a first resonance facet, a second resonance facet, and a resonance length, and said space bar has a first surface and a second surface, said first surface having a trench crisscrossed with said waveguide wire on both of its fringes, said first
10 surface of said space bar coupling to said first electrode surface of said laser-diode chip, and said second surface coupling to said second electrode surface of said laser-diode chip;

coating on said first resonance facet; and

coating on said second resonance facet.

- 15 2. The method according to claim 1, wherein the width of said space bar is between said resonance length and 50 microns less than said resonance length.

- 20 3. The method according to claim 1, wherein when a space bar is inserted between adjacent laser-diode chips, said first surface and said second surface of the space bar do not exceed said first resonance facet and said second resonance facet of the laser-diode chip.

4. The method according to claim 1, wherein the thickness of said space bar is greater than 70 microns but no more than 100 microns over the thickness of said laser-diode chip.

- 25 5. The method according to claim 1, wherein the thickness of said space bar substantially equals to the thickness of said laser-diode chip.

6. The method according to claim 1, wherein said space bar is selected from the material consisting of semiconductor chip, metal, Teflon, and plastic.

7. The method according to claim 1, wherein said second surface further has a trench crisscrossed with said waveguide wire on both of its fringes.

8. The method according to claim 7, wherein the depth of said trench of said first surface is at least 5 microns, and the preferred depth is between 10 – 20 microns.

9. The method according to claim 7, wherein the width of said first surface is 10 microns shorter than said resonance length, and the preferred range of shortness is between 60 and 100 microns.

10. A method for coating on a laser-diode facet, comprising:

arranging a plurality of laser-diode chips, wherein each said laser-diode chip has a first electrode surface covering on a waveguide of said laser-diode chip, a second electrode surface, a first resonance facet, and a second resonance facet, wherein said second electrode surface has a trench crisscrossed with said waveguide wire on its both fringes, and said first electrode surface of said laser-diode chip couples to a second electrode surface of adjacent laser-diode chip;

coating on said first resonance facet; and

coating on said second resonance facet.

11. The method according to claim 10, wherein the depth and the width of said trench are greater than 5 microns.

12. The method according to claim 10, wherein the depth of said trench is between 10-20 microns.

13. The method according to claim 10, wherein the width of said second electrode surface is 60 - 100 microns shorter than a resonance length of said laser-diode chip.